Application/Control Number: 09/929,680

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DETAILED ACTION

Allowable Subject Matter

Claims 1-45 are allowed.

The following is an examiner's statement of reasons for allowance: Claim 1 includes the limitations that a method for measuring neutron interaction properties of an earth formation comprises irradiating with a plurality of short duration neutron bursts, detecting short duration neutron burst phenomena, and detecting long duration neutron burst phenomena. Claim 13 includes the limitations that a method for measuring neutron interaction properties of an earth formation comprises irradiating with a plurality of neutron bursts having a duration selected to enable detection of inelastic gamma ray phenomena, and detecting long duration neutron burst phenomena. Claim 23 includes the limitations that a method for logging earth formations comprises irradiating with a plurality of neutron bursts having a duration selected to enable detection of inelastic gamma ray phenomena, detecting inelastic gamma ray phenomena, and detecting long duration neutron burst phenomena. Claim 35 includes the limitations that an instrument for detecting neutron interaction phenomena comprises a controller adapted to cause a neutron source to emit multiple short duration neutron bursts and permit detection of phenomena related to long duration neutron bursts stimulated by multiple short duration neutron bursts.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should

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preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Moran whose telephone number is 703-305-0849. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on 703-308-4852. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

T.M.

TM September 5, 2003 CONSTANTINE HANNAHER
PRIMARY EXAMINER
GROUP ART UNIT 2878